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ABSTRACT

In order to improve self-concepts, inculcate pride of heritage, and improve use of English by building larger speaking and reading vocabularies in Sioux Indian children, 2 sets of simple books were developed. The 1st set of books, the "Read Aloud Stories," contains 10 illustrated books intended to be read to preschool and early elementary students who are not proficient readers. Each story, of Sioux origin, conveys a simple concept to the child concerning his Indian heritage. Reading grade levels as determined by the Spache Readability Formula are grades 1.9 to 3.4, although the books have been read aloud or used as readers through 6th grade. Although evaluation of these books has been limited (they have been used in 7 schools), reports by teachers using the books have been favorable. The 2nd set of books, the "Rebus Reading Book Series," contains 10 illustrated books intended for use as supplementary readers in grades 1.779 through 2.2488 (Spache Formula). In these books, adaptations of Indian folk tales introduce readers to Indian cultural history. Interview-questionnaire technique showed the use of rebuses to reduce vocabulary load and allow for anticipation of unknown structure words. No statistical analysis was used due to the limited number of subjects. Included in this 3-part report on preparation of these materials are preliminary project information, overviews of the 2 sets of books in terms of preparation and final product, evaluations of the 2 series, tables of readability analysis (by book), appendices showing resource materials and the questionnaire, and bibliographies of materials used in book preparation. RC 006 115 and RC 006 116 contain the book sets. (MJB)

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PROJECT 1-H-031

Final Report

Project No. 1-H-031
Grant No. OEG-8-71-0024 (509)

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Dr. Loraine Webster
Dr. Mabel Schleif
University of South Dakota
Vermillion, South Dakota 57069

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THE CREATION OF STORIES AND BEGINNING READING MATERIAL FOR PRE-SCHOOL INDIAN CHILDREN IN SOUTH DAKOTA

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Abstract

Title of Project: The Creation of Stories and Beginning Reading Material for Pre-School Indian Children in South Dakota

Principal Investigators: Loraine Webster
Mabel Schleif

Contracting Agency: University of South Dakota

Amount of Federal Funds Requested: $7,400.00

Proposed Beginning and Ending Dates: June 1, 1971 - March 31, 1972

Summary

The purpose of the work was to create two new sets of simple books to be used with very young Sioux Indian children. Both sets of books have been specifically designed to improve self-concepts, inculcate pride of culture and heritage and to improve use of language by building larger speaking and reading vocabularies in very young children.

The Read Aloud Stories series of ten stories is one intended to be read to pre-school and early elementary students who are not yet proficient readers. Each one of the Read Aloud Stories is designed to convey a simple concept to the young child concerning his Indian heritage.

The Rebus Reading Book series, intended for use as supplementary readers, includes ten titles. The stories are adaptations of Indian folk tales and are planned to introduce readers to the cultural history of the Indians, particularly the Sioux. They have been illustrated by students from St. Paul's Indian School, Marty, South Dakota. Rebuses have been used in the texts to reduce vocabulary load. Readability, as established by the Spache adaptation of the Dale-Chall formula, ranges from 1.7 to 2.2 grade level. Seven of the ten stories are below second grade level in difficulty. The books were field-tested for interest and readability levels using first, second, and third grade pupils.

Final Report

Project No. 1-H-031
Grant No. OEG-8-71-0024 (509)

THE CREATION OF STORIES AND BEGINNING READING MATERIAL FOR PRE-SCHOOL INDIAN CHILDREN IN SOUTH DAKOTA

Dr. Loraine Webster
Dr. Mabel Schleif

University of South Dakota

Vermillion, South Dakota

March 31, 1972

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Office of Education
National Center for Educational Research and Development

PART I

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PART I

Introduction

There has been much concern in recent years about ethnic studies. Several minority groups, including the American Indian, have tried to establish more ethnic studies at the college level and there has been some effort to teach Indian culture and history in the elementary and secondary schools.

There has also been tremendous new interest in early childhood education. Many compensatory, early intervention programs have been undertaken to try to improve cognitive development, particularly in language arts, among culturally deprived pre-school and very young school age children.

How could these two efforts, to promote ethnic studies among Indians and to focus on language and reading growth in early childhood, be combined? Could materials be produced which would enable very young Sioux Indian children to learn more of their own history and culture through stories developed specifically for them. Could beginning reading materials be developed keyed to the environment, language and culture with which they were most familiar?

The Organizational Plan of the Report

The current research project might well be described as a two-pronged effort, with each prong represented by a separate project, independently conceived and executed. One prong was concerned with the development of stories to be read to the very young Indian children. The second prong was concerned with the development of easy reading materials. The two principal investigators who developed these materials shared a common concern for improving self-image and cultural pride among Indian children.

To permit accurate summarizing of a project with such a dualistic nature, the following outline will be followed:

Part I
- Introduction
- The Organizational Plan of the Report
- Statement of the Problem
- Objectives
- Significance

Part II Read Aloud Stories
- Introduction
- Background Information (Related Research)
- Methods and Procedures
- Description of Materials Produced
- Results
- Conclusions and Recommendations

Part III Rebus Reading Book Series
- Introduction and Statement of the Problem
- Review of Related Literature
- Method and Procedure
- Description of the Materials Produced
- Results and Conclusions
- Implications

Statement of the Problem

The problem thus became a dual one. First, could a series of ten stories be produced geared to the interest level and understanding of very young non-reading Sioux Indian children? These would be read to children to enlarge their knowledge of Sioux history, culture and language as well as for pleasurable experiences in the English language.

The second part of the problem was the question of the feasibility of producing an additional set of stories specifically designed for beginning readers. Such stories would need to focus on both content and structure so that readability could be assured for these young children.

Objectives

Stated very concisely the objectives of the work were to create new materials in the form of two sets of books. One set would be read to the children, the other set would be read by early readers. Both sets of books were intended to inculcate pride in their Indian culture and heritage and to promote language development.

The results of the project have been two series of books authored by the two principal investigators of the study, the Read Aloud Stories by Loraine Webster and A Rebus Reading Book series by Mabel Schleif.

Significance

These books created for young Sioux Indian children can make useful contribution to the education and well being of Indian children by improving language skills, instilling pride of heritage and thus improving the self-image. They could encourage children's reading and pleasure in using books. There is some evidence from verbal and written reactions from teachers and other adults that the books have indeed achieved some of these goals.

Two separate sections will be included in this report covering methods and procedures, results, conclusions and recommendations for each of the two series of stories.

PART II READ ALOUD STORIES

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PART II READ ALOUD STORIES

Introduction

The following sections will describe the work done in producing the ten stories in the Read Aloud Stories. The original proposal stated the materials would be tried in a very limited way with the Indian children attending St. Paul's Mission School in Marty, South Dakota. The scope of the work broadened as additional people expressed interest in the work. The stories have been placed in numerous school situations and more people contributed to the work than was expected originally. There is an effort to explain this and give credit to these additional consultants in the narrative describing methods and procedures.

Background Information

In the area of educating minority children, particularly Indian children, the exhaustive work Education Across Cultures done by Miles Zintz in 1969 is a most useful volume. Even though it deals primarily with Indian and Spanish children in the Southwest it still offers much insight into the educational deprivation suffered by most Indians in the United States. Zintz offers statistical evidence to show that minority children generally were one and one half to two years retarded in achievement as measured by the Gates Reading Survey Test. Another reading study done by H. Basehart and T. Sasahi (1964) and selected by Zintz showed retardation became progressively worse among Indian children as they advanced in school. Indian children showed one and one half years of retardation in third grade, two years in fourth and fifth grades and three years in sixth grade.

Sentence development and vocabulary usage in minority children was studied by D. R. Thomas (1962) and results of his study showed that the children studied used significantly fewer words than children from a middle socioeconomic group. Two studies dealing directly with the Sioux Indian tribes of South Dakota are those of R. Ruark (1967) and Charles Schad (1967). Schad's work indicated that Indian children scored lower in knowledge of the English language than did non-Indian children. Ruark's work showed that the necessary reservoir of conceptual understandings may be lacking in Indian children thus preventing them from succeeding in the schools of the dominant white culture. Ruark states:

> This makes it imperative that transitional materials for culturally different children be developed for use at the pre-school and primary levels. These specialized materials would have the dual purpose of (1) bringing the cultural gap that exists through relevant stories, pictures, games, and activities and (2) developing a sound basis of conceptual understandings that would enable children to successfully cope with concepts found in basic reading materials.
>
> (Roger Ruark, 1967)

Since Benjamin Bloom's widely heralded work Stability and Change in Human Characteristics (1965) has shown that 50% of the total growth in human intelligence occurs before age four and another 30% prior to age eight, many experimental programs with pre-school children have been implemented. Some successful early intervention programs that have been undertaken with pre-school children proving that language deficiencies can be dramatically improved are programs such as Bereiter and Engleman described in Teaching Disadvantaged Children in the Preschool (1966), the Peabody Program directed by Gray and Klaus at Peabody College (1965) and the work done by Martin Deutsch (1964) with New York City disadvantaged minority children.

Works that were especially helpful in providing a background of Indian history and culture were Mari Sandoz's books, Crazy Horse (1961) and The Battle of the Little Big Horn (1966). Black Elk Speaks (1961) by John G. Neihardt was also helpful.

A book that was very helpful on Sioux values was John Bryde's Modern Indian Psychology (1971) and one that provided much factual information of anthropological nature was Indians of North America (1961) by Harold E. Driver.

Many childrens books were surveyed. One of the most useful series explored was Ann Clark's "Sioux Series" that were a part of the "Indian Life Readers". These eight stories were published by the Bureau of Indian Affairs in the 1940's.

Perhaps the most poignant and telling quotation that can be presented here concluding this section is a statement made by the Indian illustrator of the Read Aloud Series, Mrs. Muriel Bierle. This statement written by Mrs. Bierle concerning the need for materials with which to teach Sioux values and culture in the elementary school in which she is employed is offered below:

> I would like to see Indian culture added to our curriculum. It would cover so many subjects it would be hard to label what subject we would call it, history, social studies, art, music, language. It should began before the young children learn to develop a set of prejudiced standards from parents, friends, etc. Four hundred fifteen of our students are Lakota - yet nothing is done.

Methods and Procedures

Travel to the Yankton Reservation to meet and talk with teachers, children, parents and elderly Indian residents was the most important means of acquiring insight and background for writing the stories. Numerous trips to pow wows, visits in private homes and conferences with personnel at the Mission School in Marty, South Dakota, all helped. Sister Inez Jetty, a teaching nun of Sioux descent at the Mission, proved to be a tremendously valuable assistant. Through Sister Inez many contacts were made that could not have occurred without her interest in the project. She was a tireless guide and intermediary. There is a list appended which covers trips made on behalf of the project.

Much background reading was necessary and some University related work on the Rosebud Reservation resulted in additional consultive help. Several Sioux aides in the Follow-Through Program in the Mission, South Dakota elementary schools gave much advice and an illustrator for the stories was found there. Mrs. Muriel Bierle not only illustrated the stories, but reacted to all of them and made many concrete suggestions. Mrs. Elora Hein was another valuable advisor from the Rosebud Reservation. There is a second list appended which includes most of those who rendered important consultive services.

The research was time consuming but important and the stories could not have been written without authenticating the material with such knowledgeable Indian people as those mentioned above.

The stories were written, then sent or taken to Mrs. Bierle, she read them and made suggestions, changes were made when desirable, then she did the illustrations. The books were put together and again evaluated and finally printed at the University Media Center.

Another person who became extremely interested and rendered valuable consultive assistance was Mrs. Blossom Keeble. Mrs. Keeble is a Sioux from the Sisseton Reservation area of South Dakota. She is presently co-director of the Bilingual Program at the University of South Dakota. She was most interested in achieving accuracy in the stories and is presently translating all ten of the Read Aloud Stories into the Dakota language for further use in her bilingual teaching program

After the books were printed it was decided they might have a broader use than originally intended. Some older children could read them independently and enjoy them. With this in mind the Spache Read-ability Formula was used to make a general determination of the reading level of each book. The following table indicates the results. It shows the overall average reading level to be grade 2.6.

READABILITY ANALYSIS OF THE READ ALOUD SERIES

The Spache formula was used to determine the reading level of each book.

Name of Book	Number of Sentences in Sample	Number of Words in Sample	Number of Words Not in Dale List	Reading Grade Level as determined by The Spache Formula
The Story of the Peace Pipe	9	112	11	3.4
An Old Indian Game	17	102	3	1.9
Tommy's Vision	13	104	6	2.4
A Visit to the Zoo	10	105	10	3.1
The Wacipi	10	104	8	3.1
A Different Kind of Calendar	12	118	5	2.5
An Indian Artist	12	108	8	2.7
Little Kitten Earns a Name	9	102	10	3.2
Winning the Eagle Feather	10	104	12	3.2
I Wish I Had a Horse	9	103	8	3.1
Average Reading Grade Level				2.6

Description of Materials Produced

The materials produced can be described as ten small (8 1/2 inches by 5 1/2 inches) books ranging from nine to eighteen pages in length. Each double page includes one page of printed text and one page with a picture. The books have been printed in varied colors.

Each story is designed to teach at least one simple concept about the Sioux culture and these are specifically pointed out to the teacher on the first page of each book.

The completed Read Aloud Stories and the concepts they are intended to convey are listed below:

Little Kitten Earns A Name - A story intended to illustrate early practices of naming in the Sioux culture.

A Different Kind Of Calendar - This story depicts the lunar calendar developed by the Sioux. It also shows the beautiful descriptive language employed by the Indian people.

The Story Of The Peace Pipe - A story which retells in simple language a traditional Indian legend.

Tommy's Vision - A story meant to show the importance of spirits and the vision guest among the Sioux.

A Visit To The Zoo - This story is intended to show the importance of the buffalo to the culture of the Plains Indians in earlier times.

An Indian Game - This story tells about a common game engaged in by the Sioux. It shows that games were important to the Sioux.

I Wish I Had A Horse - A story intended to show how important the acquisition of the horse was to Indians of the plains. It made them much more mobile and improved buffalo hunting immeasurably.

An Indian Artist - This story is intended to convey the idea that arts and crafts were an important part of Indian life and that men and women had distinctly different roles in the area of arts and crafts.

The Wacipi - This story is intended to show the importance of the traditional Indian dances and how the pow wow of today provides continuity for the Wacipi.

Winning The Eagle Feather - A story that shows the importance of the eagle and the honor conferred upon the individual who earned the right to wear an eagle feather.

A sample copy of a Read Aloud Story is included in this report.

Results

The Read Aloud Stories have been completed and placed in a number of school situations. Originally the proposal called for trying the new materials just at the Indian Mission School at Marty, South Dakota. However, the scope of the work and interest aroused in other Indian areas has meant that the books have been placed broadly and are presently being tried in a variety of different school and pre-school situations.

The books have been placed in the following places for evaluation:

St. Paul's Indian Mission
Marty, South Dakota

North and South Elementary Schools
Mission, South Dakota

Wagner Elementary School
Wagner, South Dakota

BIA School
Fort Thompson, South Dakota

Yankton Inter-Tribal Council Pre-School
Yankton, South Dakota

University Nursery School
Vermillion, South Dakota

Jolley School
Vermillion, South Dakota

The books, although designed for young non-reading children, have been read by children up through sixth grade level.

The stories have been given close attention by the teachers and students at the Indian Mission School. The following is quoted verbatim from an evaluation report submitted by Sister Thersa Lane, first and second grade teacher at the school.

The Story Of The Peace Pipe - Children keenly interested when the story was read by the teacher. When asked what they thought of it, nearly all of them said, "I don't believe it." or else shook their heads.

When the story was read by a second grade boy he had difficulty with the following words - terribly, ordinary, human, wasted, encampment, magical, distance.

An Old Indian Game - Some had heard of the game of "Shinny" and were very interested. They also were interested in the boy's name, since he was in the first grade, but did not think that the picture looked like him. When read by a second grade boy, he had difficulty with some words such as - willow, curve, scorch, knock, rough, argue, leather, etc.

I Wish I Had A Horse - This book interested the children very much as they like horses. A second grade boy read it and had difficulty with only two words - easier and pretend.

The Wacipi - The vocabulary in this book seemed more difficult than in the others for second grade children. Most likely is best suited for a higher grade.

Little Kitten Earns A Name - This story seemed too long to hold the interest of first and second grade children. The words which were most difficult for a second grade girl were - bower, vision, surprising, hissed, snarled, uncertain, dangerous, warriors, and Sioux.

A Visit To The Zoo - This story also seemed too long to hold the interest of the children. Since it had the name of a boy whom they knew, they said, "Show us the pictures," and on seeing the boy said, "That isn't him." When read by the teacher they showed a high interest in the buffalo and exclaimed, "Show me. Sister, show me. Let me see." When asked where they saw a buffalo, one boy said, "I saw a live one when I was going to Black Hills."

There were some words children had difficulty reading, such as - excited, special, finally, especially, stripes, certainly, walrus, and interested.

A Different Kind Of Calendar - Very interested when read by the teacher. A second grade boy had difficulty with the following words - next, brightly, written, and wondered.

An Indian Artist - The vocabulary in this book seemed more suited to the second grade children as by this time they have gained skills in reading.

They were very interested in the content also.

Winning The Eagle Feather - They liked this story, and had little difficulty with the vocabulary. The word "pheasant" seemed to be new to them.

Tommy's Vision - This too was read without much difficulty. One boy had difficulty with the words - everyday and ordinary.

I think these books are very valuable in teaching Indian culture to the children.

Sister Theresa Lane

A second report by the third grade teacher, Sister Benita Leahy, follows in part:

> The third grade thoroughly enjoyed your books, especially, The Story Of The Peace Pipe, The New Kind Of Calendar. They thought this was fascinating and when Father Bears Heart was here on February 22nd, the children told him about the book and he asked them to make a little project on the Sioux calendar.
>
> I thought the books had an extensive use of pictures which helped the children to identify with the story characters. These books too persuaded the children that reading is fun and also that there was a purpose in writing those stories.....
>
> Both the content and format are designed to change the child's attitudes toward reading as they (your Indian stories) provide him with pleasant, meaningful reading experiences.
>
> Congratulations, Dr. Webster, you did an excellent job on those stories. The vocabulary was excellent for third graders and they enjoyed reading all the stories themselves too when I placed them on the library table back of the room.....

The limited evaluation received from teachers has been quite favorable, but much is still being done and it must be stated that this aspect is presently quite incomplete. However, numerous additional requests for books have been received from persons closely associated with the Indian community and this could give some indications as to how the stories are being accepted.

The Elementary Curriculum Director of the Mission, South Dakota public schools has asked for thirty additional sets. Mrs. Keeble requested fifty additional sets for use in her pre-school bilingual programs. Lloyd Moses, Director of the Institute of Indian Studies at the University of South Dakota, has asked for one hundred sets to show and distribute among Indian people. All these people have repeatedly stressed the serious dearth of such materials for young children.

Conclusions and Recommendations

The books have been written, illustrated, printed and more widely distributed than was originally anticipated. Enthusiasm and interest has been widely expressed for this kind of material and makes it apparent that there have been serious deficiencies in developing curriculum materials for young Indian children.

The Read Aloud Stories have been enthusiastically accepted in the limited time they have been available. The interest expressed by Indians and others working closely with Indian education can only lead to one conclusion. There is much need for this kind of ethnic material for the young child.

It is strongly recommended that more material of this type be developed.

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Zintz, Miles V., Education Across Cultures (Dubuque, Iowa: Kendall/Hunt Publishing Co., 1969).

Personal letters, papers, and tape recordings.

APPENDIX A.

Trips Made in Connection with Project

Person	Location	Date	Reason
Dr. Webster	Marty Mission	July 30-31, 1971	Research and Interviews
Dr. Webster	Marty Mission	August 7-8, 1971	Research and Interviews
Dr. Webster	Marty Mission	September 24, 1971	Research
Dr. Webster	Wagner	September 29, 1971	Research
Dr. Schleif	Wagner	October 7, 1971	Research
Dr. Schleif	Marty Mission	November 19, 1971	Interviews
Dr. Webster	Marty Mission	November 29, 1971	Interviews
Dr. Webster Dr. Schleif	Mission	December 21, 1971	Consult with Dr. Webster's illustrator
Dr. Webster Dr. Schleif	Wagner	January 14, 1972	Disseminate material
Dr. Webster	Mission	January 26, 1972	Consult with illustrator
Dr. Schleif	Wagner	February 28, 1972	Pick up childrens illustrations
Dr. Webster	Wagner	March 8, 1972	Consultation with children illustrators
Dr. Schleif	Wagner	March 10, 1972	Pick up childrens illustrations
Dr. Schleif	Wagner	March 17, 1972	Pick up final childrens illustrations
Dr. Webster	Mission	March 22, 1972	Evaluation
Dr. Webster	Mission	March 30, 1972	Evaluation

APPENDIX B.

Consultants Providing Outstanding Assistance in the Project

Sister Inez Jetty	Sixth Grade Teacher St. Paul's Indian Mission Marty, South Dakota
Sister Kathleen States	Principal St. Paul's Indian Mission Marty, South Dakota
Sister Theresa Lane	First and Second Grade Teacher St. Paul's Indian Mission Marty, South Dakota
Mr. Paul Picotte	Indian Resident Lake Andes, South Dakota
Mr. Horned Eagle	Indian Resident Wagner, South Dakota
Mrs. Amelia Dacoteau	Indian Resident Wagner, South Dakota
Mrs. Vivian Archambeau	Indian Resident Pickstown, South Dakota
Mrs. Muriel Bierle	Indian Follow-Through Aide Mission, South Dakota
Mrs. Elora Hein	Indian Follow-Through Aide Mission, South Dakota
Mrs. Blossom Keeble	Indian Co-Director of Bilingual Program University of South Dakota
Dr. Cecil Kipling, Jr.	Professor of Education Coordinator of Elementary Education University of South Dakota
Mr. & Mrs. Packard	Indian Residents Lake Andes, South Dakota

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Introduction and Statement of the Problem

Indian children, as a group, are typical of other minority groups in their lower rate of achievement when compared to the educational achievement of the nation's children as a whole. Much attention has been given recently to determining why this inequity exists. Lack of opportunity, inappropriate materials, and general apathy have all been acknowledged as contributing to this pattern of under-achievement. The present investigation did not elect to address itself to the problem of educational opportunities; instead, it chose to explore the possibility of alternatives in the matter of materials and general incentives to education.

For too long a period of time the Indian has been forced to accept the white man's culture and to abandon his own. Small wonder that his reaction has been one of disinterest or even negativism. Within the last few years some good strides have been made in attempting to help these people rebuild their own culture and re-establish their value-system. Particularly important and meaningful have been the efforts in working with the young Indian children.

This project has been concerned with the development of educational materials, to be used with young children, which would help revive within those children a sense of identity and cultural pride. The investigator in charge of the second prong of the project was specifically concerned with working toward a solution to the question: Can materials be developed for use with the young readers that will help to inculcate in those readers feelings of self-worth and pride in their cultural heritage?

Since these materials were to be placed directly in the hands of the young readers, attention needed to be given to both content and mechanics. In selecting content that would make a worthwhile contribution to the ultimate goal, the investigator elected to use Indian folk tales. This would provide information about cultural history as well as an interesting, stimulating framework for the reading act.

In the matter of mechanics, the stories needed to be constructed with a simple vocabulary and short sentences. The rebus technique was selected as a means for reducing vocabulary load. Defined in terms of this investigation, a rebus is a picture which represents an entire word. In the stories developed for this project, the rebuses represent those content words for which the underlying concepts can be pictorially presented.

The original goal of the project stipulated that ten such stories would be prepared for use with young Indian readers. These stories were then to be tried with the children at St. Paul's Indian School, Marty, South Dakota.

Review of Related Literature

Can materials be developed for use with the young Indian readers that will help to inculcate in those readers feelings of self-worth and pride in their cultural heritage?

Help in resolving that question came from related literature and research reports. Two areas of concern appeared pertinent in selecting literature for subsequent examination.

(1) What kind of story content dealing with Indian culture and ethics would be appropriate and appealing to these young readers?

(2) How might the stories be best constructed so as to assure readability by young readers at about the first grade level?

In exploring the related literature for an answer to the first question, the investigator turned to authorities on children's literature for an answer. Georgiou (1969), in describing folk literature, said:

> Folk literature as a portion of universal literature belongs to everyone, adults and children alike. But it is children who keep alive the dramatically imaginative stories whose sources stretch far back into the infant years of human history. .....it continues to captivate children just as the Pied Piper charmed them with his piping.

Besides its universal appeal to all children, folk literature also has provided some very basic information about specific cultures. It is claimed that "why" stories or pourquois have their roots in the primitive religion of an ethnic group. These tales also provide an accurate reflection of the culture through their settings and in the creatures and situations depicted.

Huck and Kuhn (1968), listed the following characteristics which make folk tales desirable vehicles for young readers:

(1) The plot structure is usually simple and direct.

(2) Repetition is a basic element in many folk tale plots.

(3) Action takes place very quickly so interest can be maintained.

(4) Animals are frequently given human characteristics.

(5) The use of dialog adds interest.

To find an answer to the second question the investigator examined available literature and reported research on readability in beginning reader materials. The two parameters most frequently mentioned as determiners of level of readability were sentence length and unfamiliar vocabulary. Sentence length as a factor in story construction was not a formidable challenge in adapting folk literature to the capabilities

of young readers. Vocabulary load was a much more serious problem to resolve, since the investigator did not wish to drastically change the tone of the original tales, nor did she wish to create a whole new set of problems for these young readers by making it mandatory for them to learn a vast number of new words. Therefore, the investigator looked to related research and literature for the purpose of establishing a rationale for the use of rebuses as a means for reducing vocabulary load.

The rebus may be defined as a symbol or picture which represents a word or a part of a word. In this investigation the rebus had been defined as a pictorial representation of the entire word and also indicative of the concept behind that word.

The use of pictures in written communication was one of our earliest manifestations of written language. Messages so encoded by prehistoric man have been perfectly preserved to the present day. Rebuses are still in wide use today in road signs and pictorial labels on equipment. The pictured symbols constitute a kind of universal language that is easily decoded and comprehended by all people, regardless of their native tongue.

However, the use of rebuses in the educational world is not widespread. Nor is there a great body of research available to support its use. This does not mean that rebuses have little value. It merely points out the fact that this is an area which invites further investigation.

Some basal reader materials do use rebuses at the early levels as a means of reducing vocabulary load. The first two preprimers of the Harper & Row basic reading series (1966) have used rebuses for this purpose. A few books written for children's enjoyment also have used this approach. One such book is Mother Goose in Hieroglyphics (1962).

Richard W. Woodcock has developed educational materials specifically using a rebus approach. He has also conducted research to support the use of this medium. His Peabody Rebus Reading Program (1968) makes use of rebuses to represent the complete, or virtually complete, text of reading material. The efficacy of this approach as contrasted to traditional orthography was subjected to analysis in a study using ten subjects (1968). The results indicated a significant difference ($p < .001$) between the two groups in favor of the rebus group. In his report Woodcock said:

> The results of this study demonstrate the relative ease with which children can learn to "read" material written in rebus symbols.

Woodcock went on to make this further recommendation:

> More use of rebuses in beginning reading, to represent either a part or the entire text of beginning reading materials, should be given serious consideration by educators, authors, and publishers. Since children can learn rebus symbols so rapidly, instructional materials using rebuses may provide a much easier beginning program in reading than those using

T.O. exclusively. With rebus materials the child is immediately able to attend to the meaning of the passage and other aspects of the reading process, rather than primarily to the translation of a difficult system of symbols.

In the Peabody Rebus Reading materials the reader is helped to make the transition from rebus symbols to traditional orthography. In the materials developed for the current project, this investigator had set no such goal. Since these stories were not created for instructional purposes but were intended for use as supplementary reading material instead, the rebuses were to be retained throughout the stories. The investigator felt that, not only would the rebuses contribute appreciably to lightening the vocabulary load, they would also help to maintain interest and continuity in the reading act.

Method and Procedure

In discussing the methods and procedures involved in writing stories for young readers, the investigator addressed herself to the following problems:

(1) The source of literary material basic to the stories.

(2) Writing the stories and producing the rebuses.

(3) Illustrating the stories.

(4) Testing the stories for readability, appeal, and appropriateness.

The investigator first went directly to the Indian population near Marty, South Dakota to gather information about folk literature. Sister Inez Jetty, sixth grade teacher at St. Paul's Indian School, Marty, served as liaison on these visits. A number of the citizens were interviewed and the interviews were taped. However, these visits yielded no reservoir of folk literature.

Having met with frustration in the search for traditional folk lore among the Indian population, the investigator turned to collections of such literature available in libraries. A bibliography of such anthologies which proved useful has been included in the appendix. (Appendix A)

In selecting stories from these sources for adaptation these criteria were established:

(1) There was action in the story.

(2) The events could be reworded in simple, declarative language.

(3) The characters, as well as many other nouns, could be pictured.

(4) There was opportunity for repetition to encourage fluent reading of the text.

Some of the stories required very little internal change in making the adaptation. Others required more and major changes. Throughout this work the goal was to retain the flavor of the original tale. Desirable character traits were retained and activities and events corresponded to those in the original tale.

After the stories were completed rebus symbols were substituted within the text wherever possible. Thus an ordinary sentence took on a new appearance.

One day went walking.

Figure 1. A sentence with a rebus item.

Whenever the rebus represented a person, care was taken not to depict a stereotyped figure. Instead, only an outline figure was used; this allowed the reader to fill in that outline mentally as his own imagination dictated.

The two old did not like the Indians.

Figure 2. A sentence with a human rebus.

In the use of names within the stories, the investigator created a supplementary technique.

Figure 3. An Indian name in rebus.

This technique permitted the inclusion of the concept of how an Indian was named. In the figure above, the concept of leaf in its literal sense no longer existed. Instead, the bracket below the name was intended to show that a real red leaf played an important role in the naming of this Indian and the word leaf is now par of his name. The investigator believed that young children might view the bracket as arms embracing the man's name, so a small circle was added, symbolizing the head of the person whose name was given.

The rebus items were drawn by the investigator and then mechanically reproduced. Thus, each rebus was uniform in size and appearance whenever and wherever it appeared in a story.

The completed stories were taken to St. Paul's Indian School at Marty, South Dakota.* Pupils in grades three through eight were invited to participate in the project by submitting illustrations for the stories. Each pupil who participated was asked to make four illustrations for the story of his choice. He might have, if he wished, illustrated more than one story. When all illustrations were completed, a committee consisting of Sister Kathleen States, principal; Sister Bernadette Gerbetz, art teacher; and Dr. Mabel Schleif, investigator; selected the set of illustrations for each story. Each young artist, who was so honored, was given a book of his choice as his award. The entire school was given a set of reference books for their efforts in the total project. The

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*The investigator wishes to acknowledge her gratitude to the principal and staff of St. Paul's Indian School, Marty, South Dakota, for their support and encouragement in this project: Sister Kathleen States, Principal; Sister Bernadette Gerbetz, Art teacher; Sister Theresa Lane, grade 1-2; Sister Benita Leahy, grade 3; Sister Mary Francis Poitra, grade 4; Mrs. Patricia Blair, grade 5; Sister Inez Jetty, grade 6; Sister M. Felicia Maestas, grade 7; and Sister Mary O'Loughlin, grade 8.

stories and their accompanying illustrations were then turned over to the Educational Media Center at the University of South Dakota. Here the books were printed and assembled for distribution.

The completed books were given to grades one, two, and three for their evaluation as to readability and interest level. Sister Theresa Lane, first and second grade, and Sister Benita Leahy, third grade, were asked to record pupil reaction to the books and also to give their own evaluation of the books as supplementary reading materials. A copy of the questionnaire provided them is included in the appendix. (Appendix B)

Description of the Materials Produced

Ten stories were developed for the Rebus Reading Book series. The titles and a one- to two-sentence synopsis of each story follows:

(1) Why the Robin Has a Red Breast
Little Bear goes into the forest to gain a name. Brown Bear tries to cause his death but Little Bear is saved by a robin.

(2) Flying Jack Rabbit Gets His Name
Little Boy wants to earn a new name. He earns it when he saves the jack rabbit from the eagle.

(3) Why the Bear Has a Short Tail
Fox plays a trick on Bear when he takes him fishing on the ice.

(4) A Brave Scout
Red Leaf and his dog scout for buffaloes. The buffalo hunt becomes a sad event when wolves come to eat the buffalo.

(5) The Magic Basket
The cedar tree helps the women of the village by giving them a magic basket. When the women become lazy the magic ends.

(6) The Kind Bean-Mouse
The bean-mouse helps a hungry family. When the selfish mother steals from the mouse the family is punished.

(7) How the Indian Got Fire
The wolf and the other animal friends help the Indians get fire from two old women.

(8) Fish for All
The wolf tricks the two old women so that he can open the dam and let out the fish.

(9) Why Bees Can Sting
Great Spirit gives stingers to bees so they can drive away Bear who has been stealing their honey.

(10) Dark Cloud
Dark Cloud, a giant, invites the animals to a feast at a lake filled with oil. The animals who drink the most are the ones who can hibernate all winter.

The books were printed on text-weight paper. This weight was selected so that they would be sturdy enough for repeated handling. Soft, pale shades of ivory, light gray and light gold were used for the text pages. The light tones add eye appeal as well as insure eye

comfort. An appropriate illustration has been reproduced on the cover of each book to awaken interest in that story.

Book size is 7 1/2 X 9 inches. This is comparable to the size of early reading materials published commercially. This size provides for pages large enough to accommodate the rebus items and the larger type size. The type size was selected to be comparable to that in first grade basal reading materials. Most of the text consists of one-line sentences.

In each book the page preceding the story is directed to the parent or the teacher. On this page are listed all the rebus items which will be found in that particular story with their verbal equivalents. The investigator hoped that the parent or teacher will check accuracy of identification of the rebus items with the young reader before he begins the story. This procedure should help to insure accuracy in decoding as well as providing a basis for anticipation and motivation.

A sample copy a Rebus Reading Book is included in this report.

Results and Conclusions

The original charge to this part of the investigation was: Can reading materials be prepared that will be suitable for young Indian readers and that will also help to inculcate in those readers feelings of self-worth and pride in their heritage?

To determine how suitable the materials were for young readers, the investigator subjected each story to a test for readability, using the Spache adaptation of the Dale-Chale Readability formula (Spache, 1955). The Spache adaptation was used since effort had been made to produce materials at a primary level. The results of the readability analysis is shown in Table I on the following page.

According to the directions for using the formula, unfamiliar words are those words not on the list of 769 words common to the first 1000 words from the Thorndike-Lorge Teacher's Word Book and the International Kindergarten Union List (Dale, 1931). With this list of 769 words the investigator also included all pictured rebus items. It was believed that such rebuses represent familiar concepts.

The difficulty for the ten books ranged from 1.779 to 2.2488. Seven fell within first-grade reading level. The other three fell within the lower part of second grade.

Many authorities in the field of reading identify reading materials on three levels of usage, determined by accuracy of word recognition:

(1) 99 per cent accuracy is equated to the independent level of reading

(2) 95 per cent accuracy is equated to the instructional level

(3) 90 per cent accuracy is equated to the frustration level.

If one assumed that the list of 769 common words was contained in the reading vocabulary of second-semester first grade pupils, then the level of usage for these ten books might be categorized thus:

(1) Independent Level:
How the Indians Got Fire — 100 per cent accuracy
A Brave Scout — 99.07 per cent accuracy
Why the Robin Has a Red Breast — 99.06 per cent accuracy
Fish for All — 99.01 per cent accuracy
Flying Jack Rabbit Gets His Name — 99 per cent accuracy

(2) Instructional Level:
The Magic Basket — 97.2 per cent accuracy
Why the Bear Has a Short Tail — 97.2 per cent accuracy
The Kind Bean-Mouse — 97.1 per cent accuracy
Why Bees Can Sting — 96.1 per cent accuracy
Dark Cloud — 94.1 per cent accuracy

Throughout the analysis rebuses have been identified as familiar items. By way of comparison a second analysis was made of the samples

TABLE I

READABILITY OF REBUS READING BOOK SERIES

(Ranked from easiest to most difficult)

Title	No. of words in samples	No. of sentences in sample	Average sentence length	No. of unfamiliar words	No. of unfamiliar words (Rebus items deleted)	Readability level
How the Indians Got Fire	100	15	6.67	4	0	1.779
Why the Robin Has a Red Breast	106	17	6.2	3	1	1.794
Why the Bear Has a Short Tail	107	21	5.1	4	3	1.7989
A Brave Scout	107	17	6.3	3	1	1.807
Flying Jack Rabbit Gets His Name	100	15	6.67	2	1	1.8655
Why Bees Can Sting	101	19	5.3	6	4	1.9217
The Magic Basket	107	17	6.3	7	3	1.9681
Fish for All	102	13	7.84	3	1	2.0295
The Kind Bean-Mouse	105	15	7.0	6	3	2.0754
Dark Cloud	102	16	6.4	8	6	2.2488

originally used in computing readability. This time the sample passages were treated as if no rebuses had been used. Average sentence length remained constant with that of the first analysis but the number of unfamiliar words increased. Readability was computed with this new figure. The comparison between the two results is shown in Table II.

TABLE II

COMPARISON OF READABILITY RESULTS

	Readability of passage without rebus items	Readability of passage with rebus items	Reduction in Difficulty
How the Indians Got Fire	2.123	1.779	.344
Why the Robin Has a Red Breast	1.9540	1.7940	.16
Why the Bear Has a Short Tail	1.8763	1.7989	.0774
A Brave Scout	1.9681	1.8072	.1609
Flying Jack Rabbit Gets His Name	1.9515	1.8655	.0860
Why Bees Can Sting	2.0927	1.9217	.171
The Magic Basket	2.4863	1.9681	.5182
Fish for All	2.1938	2.0295	.1643
The Kind Bean-Mouse	2.3162	2.0754	.2408
Dark Cloud	2.5118	2.2488	.263

Rebuses accounted for as much as .5182 reduction in grade level (or about half a grade) in the case of The Magic Basket to as little as .086 grade level in the case of Flying Jack Rabbit Gets His Name. Average reduction in difficulty was .21856. Greatest amount of reduction in difficulty through use of the rebuses was found in the three books identified as most difficult under the conventional application of the Spache adaptation.

Determining the value of these books as vehicles for achieving change in attitude was a second goal. This measurement was to be accomplished through the use of an interview-questionnaire technique in the hands of the classroom teachers who were field-testing the books. The results of these interviews are not yet available. In lieu of such a report, photographs of first and second grade children have been included, showing them at the moment of their introduction to the first three books. (Appendix C)

The Rebus Reading Books were taken to St. Paul's Indian School for field-testing with beginning readers. Beginning readers were indentified as pupils within the first grade level of reading instruction. At St. Paul's School there is a combination first and second grade, taught by Sister Theresa Lane. The children are informally grouped for reading instruction. A basal reading program, The Ginn Basic Readers*, is used for reading instruction, supplemented by a variety of other materials. Pupils move through the program as their readiness dictates. Pupils who had completed some work in the first reader of the Ginn series seemed the most appropriate subjects for testing the readability, interest level, and appeal of the rebus books.

The first three books to be printed, A Brave Scout, How the Indians Got Fire, and Flying Jack Rabbit Gets His Name, were introduced to the pupils on March 10, 1972. Sister Theresa was asked to let all of the pupils explore the books and then respond to the items in the survey questionnaire. (Appendix B)

The results of this survey may be summarized as follows:

(1) The format of the books appealed to the children in first and second grades.

(2) The stories appealed to the second grade especially. They seemed too long to hold the attention of the first graders, since they had difficulty with some words.

(3) The books were easy for the second grade. Most of them had no difficulty.

(4) Most of the first graders had difficulty with such words as oak, grass, warm, heard, noise, etc.

(5) The children responded favorably to the rebuses. They seemed to enjoy them.

(6) The rebuses seemed helpful in making the books easier to read.

(7) The rebuses added to the interest in the stories.

The last seven Rebus Reading Books to be printed were taken to St. Paul's School on April 10, 1972. At this time the investigator sought further evidence of the usability of the rebus technique in contributing to readability of early reading materials. Two rebus stories which might be considered quite comparable in difficulty were selected for this further screening. These stories are described in Table III.

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*The Ginn Basic Readers, Boston: Ginn and Company, 1966.

TABLE III

Title	Total Words	Number of Sentences	Usage of Rebuses	Readability Without Rebus	Readability With Rebus
Why the Bear Has a Short Tail	366	61	74	1.876	1.799
Why the Bees Can Sting	390	69	73	2.093	1.922

Because the pupils had already been introduced to the first three Rebus Reading Books, it was assumed that all were familiar with the rebus technique.

Subjects selected for the second phase of the investigation were all the pupils who were reading in Ginn Basic Readers closest to the 1.7 grade level. These were found to be two first graders who had been in the first reader for about five weeks, who might be described as having a 1.2 grade placement; and two second graders, who had begun the second reader most recently and who might be described as having a 2.2 grade placement. The four subjects who were selected have been described in Table IV.

TABLE IV

DESCRIPTION OF SUBJECTS

Subject	Grade	Birthdate	C.A.	Durrell Listening-Reading Test* Potential	Durrell Listening-Reading Test* Achievement	Comments
I	1	4-25-65	7-0	1.2	2.5	Immature
II	1	11-20-64	7-5	not available		Newly enrolled at St. Paul's in November
III	2	2-9-64	8-2	1.0	2.5	Much improvement during this school year
IV	2	8-18-64	7-8	2.0	2.8	Reliable

*Durrell, Donald D. and Mary Hayes, Durrell Listening-Reading Series (Primary Level), New York: Harcourt, Brace and World, Inc., 1969, (Administered April, 1971).

The two rebus stories which were selected for this further investigation were prepared in a second edition with conventional texts (without rebus items) so that each subject might have two reading experiences, one with and one without rebuses, so that comparison might be made. The experiences were set up in the counter-balanced order indicated in Table V.

TABLE V

PLAN OF EXPERIMENTAL PROCEDURE

	Reading Experience	
Subject	With Rebus	Without Rebus
I	Why the Bees Can Sting	Why the Bear Has a Short Tail
II	Why the Bear Has a Short Tail	Why the Bees Can Sting
III	Why the Bees Can Sting	Why the Bear Has a Short Tail
IV	Why the Bear Has a Short Tail	Why the Bees Can Sting

Two criterion measures were gathered for each subject. They were the following:

(1) The percent of errors in word recognition when the subject read the text at sight (% of Errors).

(2) The average number of words read per minute (WPM).

Each subject read both stories at one sitting. The results are described in Table VI.

TABLE VI

DESCRIPTION OF RESULTS

	With Rebus		Without Rebus	
Subject	%of Errors	WPM	% of Errors	WPM
I	36.2	27.6	28.1	29.3
II	14.5	26.6	11.8	28.14
III	.77	63.6	.80	69.84
IV	3.0	61.92	2.56	61.08

As indicated in the results of the survey questionaire, the reading material was obviously difficult for the two first grade pupils (Subjects I and II). However, the subject who found the text most difficult, Subject I, actually showed the greatest amount of favorable influence from inclusion of the rebus items with a reduction in per cent of error from 36.2 per cent to 28.1 per cent. This kind of situation, where the text is extremely difficult for a subject, may well be the best kind of test for the value of rebuses, since it shows whether the subject can actually use the rebuses to anticipate unknown structure words as well as to reduce the vocabulary load of the number of unfamiliar content words.

Two other subjects also showed a decrease in per cent of error (Subject II, from 14.5 to 11. 8, and Subject IV, from 3.0 to 2.56). The fourth subject, Subject III, who showed no per cent of decrease in error, had only three actual errors in each of his readings. As a second grader, he obviously found the vocabulary familiar and needed no supportive measures.

In analyzing the results of words read per minute, the most capable subject, Subject III, showed the greatest gain with an increase of 6.24 words per minute. The investigator noted that all the subjects were distracted by the full page illustrations drawn by student artists and this could have cut sharply into gains that might otherwise have been noted. It might be expected that Subject III would have reflected an even greater gain if the full page illustrations had been masked.

The results were not subjected to statistical analysis since there were too few subjects per cell for a valid two-way analysis of variance procedure. In fact, the population from which these subjects were drawn was too limited in size for a sophisticated approach to statistical analysis. However, because of tendencies which were quite uniformly noted in the raw-score data, the investigator feels there would be merit in replicating this design with a larger population and with some correction in the materials, such as masking full page student illustrations in both the rebus and non-rebus editions of the experimental stories.

Implications

Arithmetic computations showed that rebuses did help to reduce the vocabulary load in reading material. Subjective evaluation of the rebus material indicated that young readers found the materials attractive and appealing. What effect the story material will have upon building positive attitudes toward Indian heritage and culture in the minds of young readers will have to be assessed after the materials have been in use over a period of time. Change in attitude does not occur within a fortnight.

Beyond the use of the rebus technique in producing materials that are easily read and understood, rebuses can have another distinct and important value. This is in the development of familiarity, if not proficiency, with the Sioux language. It is a sad fact that the Sioux language is as foreign to most of the Sioux Indians as it is to their neighbors of other ethnic groups. As was stated early in this report, the Indians have been forced to adopt the white man's culture and to forfeit their own. This has resulted in a "linguicide" of their language. Energetic effort is now being made to remedy this sad situation through the Indian Studies Programs. Experience has shown that it is the young child who finds it easiest to learn a new language in its oral or spoken form. Pictures, such as the rebus items, might serve well as stimuli in building oral vocabulary. And those same rebus items then would make easier the next step, the transition from the spoken language to decoding the written language. The simple syntactic structure of those stories would lend themselves well to reading their translations in a second language when that level of proficiency has been reached.

Such a program of language development, first in its oral and then in its written form, is a desirable feature to be included in the curriculum of all young elementary children. Not only would Indian children profit from such a program, it is also essential that members of other ethnic groups understand and appreciate their Indian neighbors. What better way could there be than through reading their literature and learning some of their language?

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APPENDIX A.

Resource Materials

Anthologies of Indian Folk Literature

1. Bleeker, Sonia, The Sioux Indians, New York: Wm. Morrow and Company, 1962.

2. Compton, Margaret, American Indian Fairy Tales, New York: Dold, Mead and Company, 1917.

3. Gilmore, Melvin, Prairie Smoke, New York: Columbia University Press, 1929.

4. Writers' Program, South Dakota, Legends of the Mighty Sioux, South Dakota Department of Public Instruction, 1941. Sioux Falls: Fantab, Inc., 1960.

APPENDIX B.

Questionnaire

1. Did the format of the books appeal to the children?

2. Did the stories appeal to him?

3. How easy - or difficult - were the books?

4. Could most of the first graders read them? How independently?

5. Did the children respond favorably to the use of rebuses?

6. Do you feel the rebuses were helpful in making the books easier to read?

7. Did they add to the interest?